

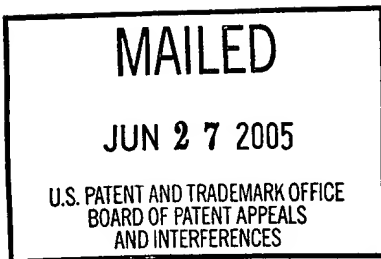
The opinion in support of the decision being entered today was not written  
for publication and is not binding precedent of the Board.

**UNITED STATES PATENT AND TRADEMARK OFFICE**

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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

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Ex parte EWALD SCHMON

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Appeal No. 2005-1175  
Application No. 09/727,465

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ON BRIEF

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Before MCQUADE, NASE and BAHR, Administrative Patent Judges.  
BAHR, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's rejection of claims 12-22, which  
are all of the claims pending in this application.

### BACKGROUND

The appellant's invention relates to a trapezoid thread for use in connecting the body of a spray paint gun to its air nozzle ring (specification, page 1). Claim 12 is representative of the invention and reads as follows:

12. In a spray gun comprising a gun body having a male thread, and

an air nozzle ring having [a] female thread, the female thread being adapted to be screwed onto the male thread, the improvement comprising:

wherein the male and female threads are trapezoid threads having a flank angle of approximately 30°, wherein the male and female threads have thread diameters between about 30 and about 40 mm, and wherein the male and female threads are characterized by:

thread heights of approximately 1.1 mm,

root to crest clearance of approximately 0.1 mm, and  
flank clearance of approximately 0.15 mm.

### ***The Prior Art***

The examiner relied upon the following prior art references of record in rejecting the appealed claims:

Kubis	4,906,151	Mar. 6, 1990
Lewis et al. (Lewis)	6,250,567	Jun. 26, 2001

### ***The Rejection***

Claims 12-22 stand rejected under 35 U.S.C. § 103 as being unpatentable over Lewis in view of Kubis.

Rather than reiterate the conflicting viewpoints advanced by the examiner and the appellant regarding the above-noted rejection, we make reference to the answer (mailed June 21, 2004) for the examiner's complete reasoning in support of the rejection and to the brief (filed June 1, 2004) for the appellant's arguments thereagainst.

### **OPINION**

In reaching our decision in this appeal, we have given careful consideration to the appellant's specification and claims, to the applied prior art references, and to the respective positions articulated by the appellant and the examiner. As a consequence of our review, we make the determinations which follow.

Lewis discloses an apparatus and method for spraying single or multi-component material in such a manner that there is no physical contact between the material and the internal passageways of the spray assembly (column 1, lines 51-53). Despite the examiner's indication to the contrary on page 3 of the answer, Lewis does disclose use of the disclosed device to spray paint. Specifically, Lewis discloses that the subject invention is applicable to spraying any kind of material, but particularly those that are rapid curing and/or difficult to clean upon drying or setting, such as paint

(column 2, lines 29-33). The Lewis invention is intended to solve the clogging problem in conventional systems caused by the mixed material passing through internal passageways in the spray apparatus and quickly curing therein when spraying stops (column 1, lines 35-38). The apparatus of Lewis includes a disposable delivery tube 14, into which the material (chemical component(s)) is introduced, having an exit end 30 which passes through a spray assembly 16. An air line 17 provides air into the spray assembly 16 via a tubular air manifold 18 to atomize the material to form a uniform spray pattern 15. The delivery tube is threaded into the manifold 18 as follows:

A plurality of guide threads 51 are used to guide the delivery tube 14 coaxially into position within the manifold 18. The flats 52 of the threads 51 are formed to close tolerance to hold the outer diameter of the delivery tube so that the tip 30 is precisely centered within the hole 45 in the air cap [26] as shown in FIG. 3. The guide threads 51 guide the tube 14 as it is inserted into the manifold 18 to center the tube properly. A plurality of sharp threads 53, which are cutting threads, cut into the tube to form close fitting relationship between the manifold and the tube with the tip 30 being centered within the opening 45 in the air cap 26. This unique arrangement of threads in the manifold insures the precise positioning of the exit end 30 of the delivery tube within the center of the hole 45 in the air cap 26 [column 4, lines 40-54].

When the spray gun stops dispensing the mixed material, no material is left in any of the passageways in the spray assembly 16, as the delivery tube 14 passes through the spray assembly, with its exit end flush with the air cap 26 of the spray

assembly. The only material left is in the delivery tube 14, which is simply removed and replaced, with no further cleaning of the spray assembly 16 being necessary.

As conceded by the examiner (answer, page 3), Lewis does not disclose the flank angle, the thread diameter, thread height, root to crest clearance and flank clearance ranges recited in claim 12. To make up for this deficiency, the examiner takes the position that it would have been obvious to provide "the claimed ranges/values for optimization dependent on application criteria, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the prior art" (answer, page 4). The examiner cites Kubis, directed to a threaded insert for small external diameter screws having a trapezoidal thread, which defines diameters, thread height, root to crest clearance and flank clearance (answer, page 3), as evidence that such parameters are known parameters of a trapezoid thread in addition to appellant's admission (pages 1-2 of the specification) that such parameters are disclosed in ISO standard DIN 103. We note that Kubis does not teach or disclose the flank angle, thread diameter, thread height, root to crest clearance and flank clearance values or ranges recited in claim 12 and, indeed, the examiner concedes that Kubis is not relied on for the specific teachings of the optimum or workable ranges.

Rejections based on 35 U.S.C. § 103 must rest on a factual basis. In making such a rejection, the examiner has the initial duty of supplying the requisite factual basis and may not, because of doubts that the invention is patentable, resort to speculation, unfounded assumptions or hindsight reconstruction to supply deficiencies in the factual basis. In re Warner, 379 F.2d 1011, 1017, 154 USPQ 173, 177-78 (CCPA 1967).

The problem with the examiner's position is that the examiner has provided no evidence or rationale as to why one of ordinary skill in the art, seeking the optimum ranges for the threads 51 in the Lewis apparatus would have arrived at the ranges recited in claim 12. Specifically, according to appellant's specification (page 3), the recited values or ranges were arrived at as an optimization to produce a thread which is more resistant to dirt, requires fewer revolutions to screw or unscrew the nozzle, suffers from cross-threading less frequently, does not require thickening of the threaded walls of the air nozzle ring or gun body and causes the air nozzle ring to be perfectly centered when screwed onto the gun body. Lewis is concerned with centering the tip 30 of the delivery tube 14 within the opening of the air cap 26, but achieves this with a combination of trapezoidal guide threads and sharp threads 53. In fact, Lewis implies that the sharp threads primarily serve this function. Additionally, because the tip 30 extends well beyond the threaded region, resistance to dirt is less of a consideration to Lewis and Lewis does not express any concern for minimizing revolutions required to

screw and unscrew the delivery tube. In summary, the examiner has pointed to nothing which would suggest that one of ordinary skill in the art would have sought to provide trapezoid threads, modified from the DIN 103 in the manner of appellant's invention, absent the teachings in appellant's disclosure. From our perspective, the only suggestion for modifying the trapezoid threads of Lewis in the manner proposed by the examiner is found in the luxury of hindsight accorded one who first viewed the appellant's disclosure. This, of course, is not a proper basis for a rejection. See In re Fritch, 972 F.2d 1260, 1266, 23 USPQ2d 1780, 1784 (Fed. Cir. 1992).

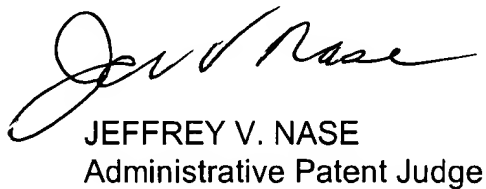
In light of the above, we cannot sustain the rejection of claim 12 or claims 13-22 which depend from claim 12.

CONCLUSION

To summarize, the decision of the examiner to reject claims 12-22 under 35  
U.S.C. § 103 is reversed.

REVERSED

  
JOHN P. MCQUADE  
Administrative Patent Judge

  
JEFFREY V. NASE  
Administrative Patent Judge

  
JENNIFER D. BAHR  
Administrative Patent Judge

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Hall, Priddy and Myers  
Suite 200  
10220 River Road  
Potomac, MD 20854